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## METABOLISMS, MARXISMS, & OTHER MINDFIELDS

DOCUMENTATION, GENERICSCIENCE CAPITALISM, CAPITAOCENE, ECOLOGY, MARXISM, METABOLISM, NON-HUMANITY

he turbulence of the 21<sup>st</sup> century poses a serious analytical challenge: How does capitalism develop *through* nature, and not just act upon it? Try drawing a line around the “social” and “environmental” moments of financialization, global warming, resurgent fundamentalisms, the rise of China – and much beyond. The exercise quickly ends in futility. Not because these processes are “too complex,” but because the conventional reckoning of Nature/Society yields the wrong questions – and the wrong answers. Such questions and answers are premised on the idea of humanity’s practical separation from the web of life.

But is not the inverse more plausible?

If “the truth is the whole” (Hegel), then the story of specific totalities – of financialization or climate change or even historical capitalism – cannot be adduced by aggregating environmental and social parts. For the “social” moment of these processes is essentially co-produced and co-productive; it is a product of nature as a whole. Far from blurring the specificity of “social” relations, such an approach enhances our capacity to grasp their specificity. Consider, for instance, the formation of new class, racial, and gendered orders in the centuries after 1492. Could we really explain the emergence of modern racism while bracketing the conquest and depopulation of the Americas? Or while abstracting the sugar planting frontier’s ferocious record of biogeographical transformation? Or nor considering the hardening of the Human/Nature divide in which most humans – women, peoples of color, and many others – were expelled from Humanity with an uppercase ‘H’? The question of human sociality (difference, conflict, and cooperation) remains at the center of such an alternative, but is now situated within lively and unruly assemblages that enfold and unfold the organic and inorganic, the human and the extra-human, the symbolic and the material (Birch and Cobb 1981; Haraway 2016).

Situating human sociality within historical webs of power, capital, and nature significantly shifts our explanatory problem. *Out* goes the problem of how humans created Society separate from Nature. *In* comes a new set of questions, turning on humanity’s patterns of difference, conflict, and cooperation within the web of life. Financialization, in this light, is not a social process with environmental and social “consequences” – consequences which subsequently issue social *and* environmental “limits” and which might be remedied through social *and* environmental “justice.” Financialization is, rather, a *bundle* of human and extra-human natures. Its claims on future wealth involve claims on future capacities of human *and* extra-human work, and its transmutation into

capital.

The contradictions – the “laws of motion” – of such bundled processes are not rooted in an abstract Society (in general) pressing against an equally abstract Nature. They are, rather, rooted in the mosaic of modernity’s “double internality” (Moore 2015, p. 3) – that is, in the ways that power and re/production are specifically bundled within a web of life that makes humans and that humans make. (Hint: when humans interact with other humans, we are – as any careworker and every parent can tell you – dealing with unruly natures that defy the boundary Nature/Society.)

Put simply, humans are a part of nature. The totality of nature is immanent in every human thought, organization, and movement. The statement is hardly controversial. Most environmental studies scholars would agree... at least in principle. It feels good to characterize “human society” as “*internal to and dependent upon* [the] larger earthly metabolism” (Foster 2013a, p. 8). And for many scholars of global change, such feel-good statements are the end of the line. It is decidedly less comfortable – and considerably more daunting – to rethink our methodological frames, theoretical propositions, and narrative strategies in this light. If not just humans, but human *organizations*, are products and producers of extra-human nature, a fundamental rethinking of storytelling, concept formation, and methodological orientation follows.

That such rethinking has made little headway until recently – with the explosion of actor-network, assemblage, world-ecological, and multi-species perspectives – is hardly surprising. For to move beyond Green Arithmetic in an analytical-empirical sense is to challenge the very basis of the social sciences and their governing conceit: that human activity is, for practical analytical purposes, “exempt” from the dynamics of the web of life. In the logic of “human exemptionalism” (Dunlap and Catton 1979; also Haraway 2008; Moore 2015), relations between humans are ontologically independent of nature. In so doing, human exemptionalism allows one to speak of modernity as a set of social relations that act upon, rather than develop through, the web of life. It allows one to assume that history, at manifold temporal and spatial resolutions, unfolds as a kind of ping-pong between “natural forces” and “human agency.”

Foster’s groundbreaking contribution was to use metabolism as a means of putting work – the work of humans and the work of nature – at the center of the question of nature, and therefore the history of capitalism. His formulation of the rift marked a kind of halfway house: between Cartesian and post-Cartesian social science. Within the context of American sociology, Foster consciously aimed at transcending the limits of human exemptionalism and establishing a research program grounded in classical social theory, Marxism above all (1999). The conjuncture was fruitful. The rise of environmental sociology in the 1970s had not changed the discipline. Marxism, too, had yet to find its groove around ecological questions. By the late 1990s, however, the conditions had ripened for the rise of metabolism as a “conceptual star” (Fischer-Kowalksi 1997). A vigorous research program was established.

This conceptual star shaped a significant current within the “environmental humanities” at the dawn of the 21<sup>st</sup> century. In distinct registers, metabolism strongly influenced both Fischer-Kowalksi’s neo-Malthusian “socio-metabolic” school and *Marxisante* approaches to global environmental change (Fischer-Kowalksi and Haberl 1998; Foster 1999). Metabolism appeared to offer the possibility of fording the “Great Divide” of Nature and Society (Goldman and Schurman 2000).

Foster’s early formulation of metabolism suggested how we might realize that possibility (1999, 2000). In emphasizing work, nature, and capital, Foster appeared to propose a new method of bounding human and extra-human natures. Human-initiated processes and relations could be situated within their internalization of particular extra-human natures, and within nature as a whole. At the same time, the biosphere could be understood as internalizing elements of human-initiated process – obviously an asymmetrical relation. Such a method would take seriously a messy process of co-production, one that could move beyond re-branding Society as “human nature” and Nature as “extra-human nature.” In such a reckoning, the perils of environmental determinism and social reductionism would be transcended. Human “society” could be understood as simultaneously a producer and product of the web of life, unevenly co-produced and symbolically enabled. In so doing, the specific forms of human sociality could be distinguished and analyzed in much more complex and nuanced ways relative to those blunt instruments, Nature/Society. Metabolism, in this potential synthesis, would bridge the Great Divide.

And yet, despite its appeal, such a synthesis never occurred. The bridge was never built. Foster’s elaboration of metabolism and materialism quickly foreclosed the very possibility of synthesis that it suggested. Marx’s “interdependent process of social metabolism” was forced into a dualist frame: “metabolism of nature *and* society” (Marx 1981, p. 949; Foster 2000: ch. 6, emphasis added). At the same time, Foster encouraged a theoretical rift between historical materialism and critical political economy, underscored by a reluctance to develop the socio-ecological possibilities of Marx’s theory of value. The dualism of Society (humans without nature) and Nature (ecologies without humans) was not transcended.

Criticizing Western Marxism for banishing nature from dialectics, Foster established a new Red-Green canon, and drew a new cognitive map for ecological Marxism. The new Red-Green canon was notable not only for who it included – but also for whom it left out. Including such figures as Richard Levins, Richard Lewontin, Stephen J. Gould, and Barry Commoner, Foster excised many other leading critical thinkers of the new environmental social sciences in the long 1970s: David Harvey, Neil Smith, Michael Watts, Robert M. Young, and Carolyn Merchant, just for starters.[1] Geographers have been unwelcome in Foster’s canon, and especially those closely associated with David Harvey (see Foster and Clark 2016; Foster 2016, forthcoming).[2] The exclusion of geographers – Foster cannot find a single geographer to credit with moving beyond “first-stage eco-socialism” (Burkett and

Foster 2016, pp. 3-4) – is important in its own right. (Nor does Foster's classic 1999 article make reference to a (then) quarter-century of Marxist-influenced political ecology.)

This disciplinary exclusion had two major effects. First, Foster's expulsion of geographers from his version of ecological Marxism is tightly related to his procedure of abstraction. For Foster, Society (and capitalism) can be conceptualized abstracted from geographical relations and conditions. Just as no historian would accept ahistorical conceptions of social change – say, crude versions of modernization or demographic transition theory – no geographer would accept a conception of Society abstracted from geography. Secondly, the refusal of geographers to accept un-geographical conceptions of Nature/Society relations has led to a broad skepticism regarding dualism (see esp. Watts 2005; e.g. Harvey 1995; Heynen et al. 2007; Peet et al. 2011; Braun and Castree 1998). Foster's reluctance to engage geographical knowledges combines with a disciplinary insularity that has effectively removed him from meaningful conversations with geographers and other scholars in the humanities and social sciences who have made the "spatial turn" (e.g., Warf and Arias 2008). Among the intellectual consequences is Foster's unwillingness to discern social constructionist from materialist interpretations that differ from Rift interpretations. The argument for historical-geographical materialism, for instance, privileges the relationality of humanity-in-nature (and nature-in-humanity) in which material and cultural transformations are entwined – without succumbing to idealism (Smith 1984; Harvey 1995; Braun and Castree 1998; Moore 2015a). And yet, for Foster, all deviations from his interpretation of Marx are idealist and constructionist. Critics of the Rift are less-than-truly Marxist – or worse (e.g. Foster 2013a, 2016a, forthcoming; Foster and Clark 2016). The evaluative process is black and white, either/or – interpretative differences are cast into the cauldron of Cartesian rationality, boiling down all difference into binary categories.

Foster's Red-Green canon has evolved alongside Foster's new cognitive map of Nature and Society. Thanks to Foster and others, Nature earned a place within Marxism – and even beyond. This was, however, a narrow interpretation of Marx's thinking about the web of life (Moore 2015). Foster saw nature as Nature, with an emphatically uppercase 'N.' Dualism had won the day. Rift as metaphor of separation, premised on material flows *between* Nature and Society, triumphed. The accomplishment was mighty, but so was the cost. Pushed to the side was a vision of metabolism as a means of unifying humans within nature, unfolding through combined and uneven metabolisms of power, wealth, and nature. In this, the dualist conception of metabolism and its "rifts" influenced a decade and more of critical environmental studies, especially within environmental sociology.

Why should this be a problem? It was perhaps not a significant problem for the first decade of the twenty-first century. New interpretations and empirical analyses poured forth. By 2010, however, it began to look as if Rift arguments had explained about as much as they could within Green Arithmetic's constraints (e.g. Foster et al. 2010). Rift analysts had largely completed the work of mapping environmental problems within capitalism – but the additive character of that project constrained its ability to explain not just capitalism's consequences, but its constitution as producer and product of the web of life.

The metabolic rift perspective is not alone in this – Green Thought's signal accomplishment, from the 1970s, was to fill in and flesh out blank spots in the human exemptionalist cognitive map. Like Green Thought as a whole, Rift arguments were caught in a powerful contradiction: a "double yes" (Moore 2015). Are humans part of nature? Yes. Can we analyze human organizations as if they are independent of nature? Yes. Metabolism-centered studies, like much of critical environmental studies, face an unresolved contradiction: between a philosophical-discursive embrace of a relational ontology (humanity-*in*-nature) and a practical-analytical acceptance of Nature/Society dualism (dualist practicality). It has been one thing to affirm and explore the ontological and epistemological questions (e.g., Bennett 2009).[3] But how does one move from seeing human organization as part of nature towards an effective – and *practicable* – analytical program?

About the author

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[1] Representative texts include Harvey (1974), Merchant (1980), Young (1979), Watts (1983), and Smith (1984).

[2] Foster presents Harvey as arguing for nature as an "outer boundary" (2013a, p. 9) – a position that distorts Harvey's actual position. Harvey holds to a strongly relational view of socio-ecological relations in which "all ecological projects (and arguments) are simultaneously political-economic projects (and arguments) and vice versa" (1993, p. 25; also 1995). An analagous mis-reading is found in Foster's appropriation of my conception of epochal crisis (Moore 2011), which he describes as the "convergence of economic and ecological contradictions" (2013b, p. 1). These appropriations indicate Foster's unwillingness to engage the relational critique on its own terms

[3] The critique of nature/society dualism is vast. Classic statements include Smith (1984); Plumwood (1993); Braun and Castree (1998). Descartes is simply one of several possible names for the kind of dualism that emerged with the rise of capitalism in the early modern era (Moore 2015).

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